

**DETAILED ACTION**

**Current Status**

1. Claims 1-8 are pending in the application.

**Priority**

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim** 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Javdani et al., {US 7,285,678, same as WO 2002076934} or Ueda et al., {US 4,937,386}.

Applicants' claim a process for reducing the cyanide levels (undesirable impurities) in a mesotrione sample; wherein all the variables are as defined in the claims.

**Determination of the scope and content of the prior art (M.P.E.P. §2141.01)**

Javdani et al. teach a process for the reduction of the levels of undesirable impurities in a mesotrione sample in the presence of activated carbon, cyanide catalyst and a pH of about 2 to 10. See column 3, lines 8-36.

On the other hand, Ueda et al. teach a process for the purification of 4,4,5-trimethyl-2-(2-nitro-4-methylsulfonylbenzoyl) cyclohexane-1,3-dione which is useful as herbicide. See column 3, example 1.

**Ascertainment of the difference between the prior art and the claims (M.P.E.P. §2141.02)**

Applicants' process for the reduction of the levels of cyanide (undesirable impurities) in a mesotrione sample differs from the prior art references cited in that Applicants claim a crystallization process wherein the cyanide levels are reduced to 150 ppm or less while the prior art references are silent about the specific level of the cyanide (impurity) in the final purified product. Another difference is that Applicants claim a process that involves a mesotrione while Ueda et al. teach a process that involved 4,4,5-trimethyl-2-(2-nitro-4-methylsulfonylbenzoyl) cyclohexane-1,3-dione, a homolog of a mesotrione.

**Finding of prima facie obviousness--rational and motivation (M.P.E.P.. §2142-2143)**

The instant claimed process for the reduction of the cyanide levels (undesirable impurities) in a mesotrione sample is taught to select the processes of Javdani et al. and Ueda et al.

One of ordinary skill in the art would have a reasonable expectation of success in practicing the instant invention by varying the process conditions as taught by Javdani et al. and Ueda et al. to arrive at the instantly claimed process for the reduction of the cyanide levels (undesirable impurities) in a mesotrione sample. Said person would have been motivated to practice the teaching of the references cited because purify mesotrione is useful as herbicide. It should be noted that the purification process claimed by Applicants is a well known technique in organic chemistry as a means of eliminating impurities from organic samples and do not constitute a patentable distinction. The references cited teach the elements of the claimed invention with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be *prima facie* obvious to one of ordinary skill in the art.

Moreover, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/573,723 in view of Wichert et al. This is a provisional obviousness-type double patenting rejection.

The presently claimed process for reducing the levels of undesirable impurities in a mesotrione sample is disclosed in U.S. Appl. No. 10/573,723.

Applicants claim a process for reducing the levels of undesirable impurities; wherein all the variables are as defined in the claims while Application No. 10/573,723 teaches a process for reducing the cyanide levels; wherein all the variables are as defined in the claims. See claims 1-5 of Application No. 10/573,723.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the claims overlaps substantially with the scope of claims 1-8 in the copending Application No. 10/598,993, and the process for reducing

the levels of undesirable impurities of the presently claim invention encompasses the process for reducing the cyanide levels in the copending Application No. 10/598,993.

The instant claims for removing **cyanide levels, an undesirable impurity** from mesotrione sample differ from the claims in the copending Application No. 10/573,723 in that the claims in the copending Application No. 10/598,993 is broader in scope. This difference is not a patentable distinction because Application No. 10/573,723 teaches the elements of the claimed invention with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be *prima facie* obvious to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Chukwuma O. Nwaonicha/  
Examiner, Art Unit 1621

/Jafar Parsa/  
Primary Examiner, Art Unit 1621  
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